

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: NEO-RAY

Report Number: P242394

Luminaire Tested: **S122RDR-S675D830-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242394  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-29)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122RDR-S675D830-X4F0-XX-UDD-A-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2343.9 lumens  
Efficiency: N/A  
Efficacy: 88.8 lumens/watt  
Spacing Criteria (0/90/45): 0.85 / 1.16 / 1.02  
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')  
CIE Type: Direct

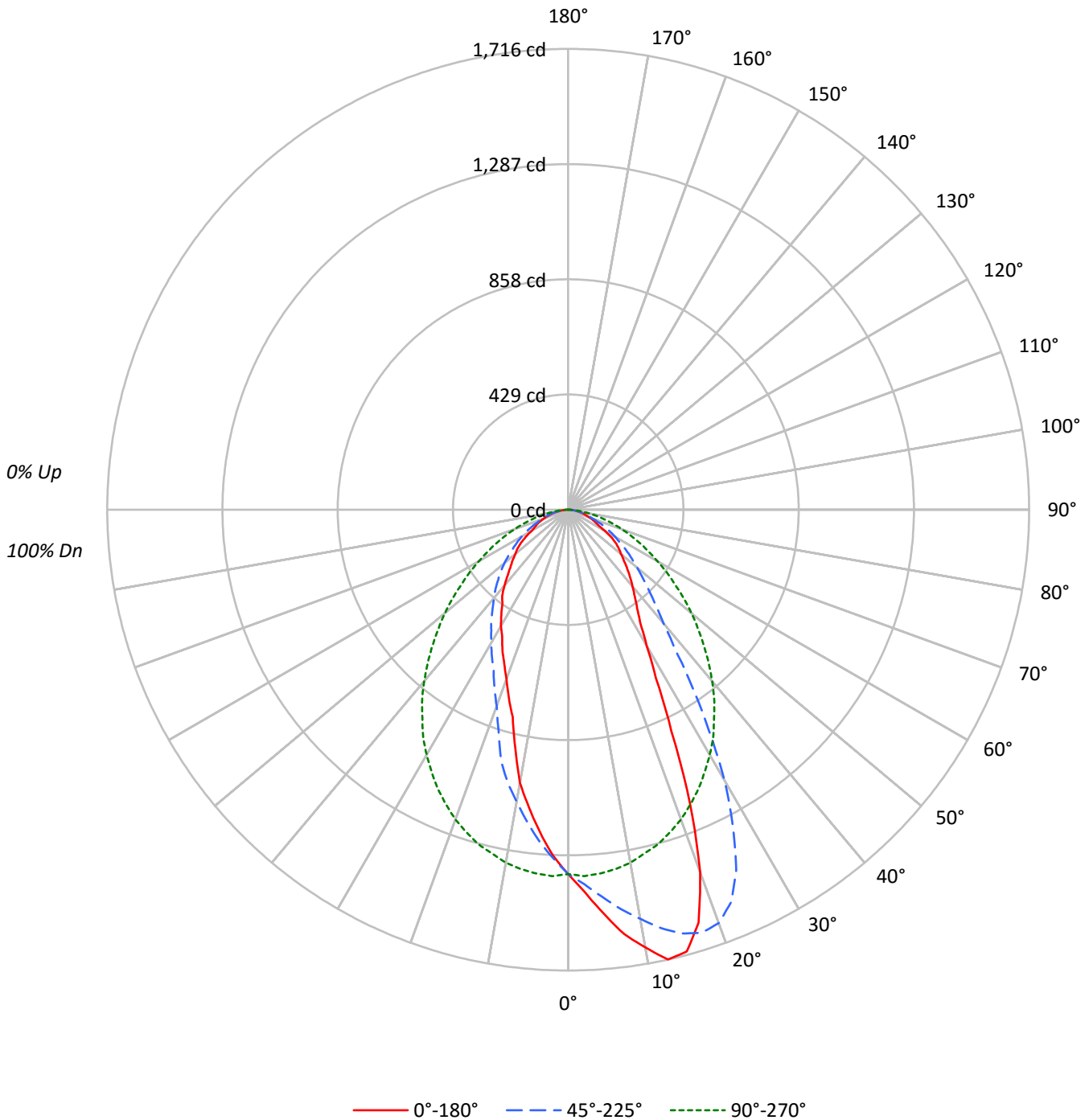
Input Watts (W): 26.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	111	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89					87				
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78					76				
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68					66				
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60					59				
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54					52				
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49					47				
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44					42				
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40					39				
9	62	50	43	38	61	50	42	37	49	42	37	47	41	37	47	41	37					35				
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34					33				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	25836	25836	25836
5°	28855	25998	23052
10°	32014	25815	19982
15°	33588	25436	15744
20°	29118	24878	13624
25°	19098	24108	12165
30°	12854	23178	11008
35°	10410	22007	9929
40°	9257	20730	9188
45°	8380	19233	8202
50°	7625	17750	7598
55°	7170	16106	7073
60°	5996	14598	5924
65°	5057	13255	5738
70°	4673	11840	5408
75°	4372	10303	4997
80°	4037	8479	4443
85°	3715	6688	3912



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	128.7	5.5
10°-20°	359.1	15.3
20°-30°	462.1	19.7
30°-40°	438.4	18.7
40°-50°	375.7	16.0
50°-60°	286.2	12.2
60°-70°	180.5	7.7
70°-80°	90.1	3.8
80°-90°	23.2	1.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	949.9	40.5
0°-40°	1388.3	59.2
0°-60°	2050.2	87.5
0°-90°	2343.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2343.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1356	1356	1356	1356	1356	
5°	1509	1447	1360	1239	1206	149
15°	1703	1634	1290	966	798	463
25°	909	1480	1147	657	579	429
35°	448	804	946	499	427	285
45°	311	424	714	368	304	241
55°	216	264	485	249	213	190
65°	112	151	294	150	127	113
75°	59	66	140	76	68	63
85°	17	17	31	18	18	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1356.4	1356.4	1356.4	1356.4	1356.4	1356.4	1356.4	1356.4	1356.4	1356.4	1356.4
2.5°	1425.2	1426.6	1428.0	1424.7	1424.7	1421.9	1415.8	1411.1	1397.9	1396.0	1396.0
5°	1509.1	1508.1	1510.0	1503.9	1495.4	1493.5	1484.6	1472.8	1460.5	1446.9	1444.1
7.5°	1593.9	1588.3	1585.9	1588.7	1579.8	1567.5	1552.5	1538.3	1517.1	1499.7	1488.8
10°	1655.2	1670.7	1661.3	1644.8	1648.1	1626.0	1614.2	1593.9	1577.0	1547.3	1540.7
12.5°	1715.5	1719.3	1717.9	1710.3	1704.2	1690.5	1673.6	1656.6	1621.7	1595.8	1568.5
15°	1703.3	1712.2	1714.6	1711.7	1714.1	1713.2	1704.7	1690.1	1662.7	1633.5	1608.1
17.5°	1612.8	1623.1	1631.6	1639.2	1651.0	1674.0	1681.1	1683.9	1672.6	1651.9	1630.7
20°	1436.5	1426.1	1469.5	1491.7	1510.5	1557.6	1598.2	1613.7	1638.7	1638.2	1633.5
22.5°	1186.7	1192.4	1232.9	1260.2	1324.3	1371.5	1419.1	1488.4	1542.6	1582.6	1607.1
25°	908.7	926.6	967.6	1003.4	1064.7	1152.3	1232.0	1324.3	1411.5	1480.3	1545.9
27.5°	706.9	709.3	746.5	782.8	820.5	896.4	1002.9	1113.7	1238.1	1327.6	1440.8
30°	584.4	581.6	595.2	615.5	646.6	702.2	777.6	886.0	1010.0	1164.6	1302.2
32.5°	497.7	498.6	508.1	521.7	546.2	579.2	624.9	707.9	823.4	974.6	1142.0
35°	447.7	447.3	454.8	465.6	476.5	500.5	535.9	582.1	662.6	804.5	969.5
37.5°	406.3	408.6	411.9	419.0	432.2	446.3	468.5	501.0	562.3	650.4	798.4
40°	372.3	373.3	378.5	384.1	391.2	401.5	419.0	444.0	485.9	552.8	654.2
42.5°	341.2	342.2	345.5	350.6	355.8	366.2	379.9	400.6	432.7	481.2	560.4
45°	311.1	311.1	314.4	316.7	322.8	332.3	344.0	362.0	385.5	424.2	479.8
47.5°	281.8	281.8	284.2	288.4	292.7	300.2	312.5	327.6	344.5	376.1	425.6
50°	257.3	257.8	259.2	262.5	264.9	271.5	280.4	293.1	311.1	334.1	373.7
52.5°	237.5	237.1	238.9	239.9	241.3	245.5	251.7	262.5	278.1	297.4	328.5
55°	215.9	214.0	216.8	219.2	220.6	222.5	226.2	233.3	247.0	263.9	288.4
57.5°	190.4	189.5	190.9	193.2	197.5	202.2	204.5	209.3	216.3	229.5	255.4
60°	157.4	157.4	161.7	163.1	168.3	174.9	181.4	185.2	192.3	200.3	218.2
62.5°	128.2	128.7	130.1	131.5	133.8	142.3	152.2	161.7	168.3	175.8	186.2
65°	112.2	113.1	113.1	114.1	115.9	117.8	121.6	128.2	140.0	150.8	159.8
67.5°	98.0	98.0	98.5	99.4	99.9	102.3	103.7	107.0	109.3	121.6	133.8
70°	83.9	85.3	84.8	85.8	86.2	87.2	89.1	90.5	94.7	97.1	103.7
72.5°	70.7	71.6	71.6	72.1	73.5	73.5	74.9	76.4	78.7	80.6	83.4
75°	59.4	58.9	59.4	60.3	60.8	61.3	61.3	63.2	64.6	66.5	68.8
77.5°	48.1	48.5	48.5	48.5	48.5	49.5	49.5	50.4	51.8	52.8	54.2
80°	36.8	37.2	36.8	37.2	37.7	38.2	37.7	38.2	39.6	40.5	40.5
82.5°	26.4	26.4	26.9	26.9	26.9	26.9	27.8	27.8	28.7	28.3	28.7
85°	17.0	16.5	16.5	16.5	17.0	17.4	17.0	17.0	17.4	17.4	17.4
87.5°	7.5	8.0	8.0	8.0	8.0	8.0	8.0	8.5	8.0	8.5	8.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1356.4	1356.4	1356.4	1356.4	1356.4	1356.4	1356.4	1356.4	1356.4	1356.4	1356.4
2.5°	1396.9	1393.2	1389.9	1381.4	1377.1	1367.7	1366.3	1365.8	1353.6	1341.8	1338.5
5°	1436.5	1429.0	1417.7	1404.5	1390.8	1376.7	1367.2	1359.7	1340.8	1322.9	1312.6
7.5°	1475.6	1462.0	1444.1	1421.4	1402.1	1379.5	1363.9	1349.8	1323.9	1300.3	1284.8
10°	1520.4	1494.0	1468.1	1433.7	1406.8	1380.4	1355.9	1334.7	1304.5	1270.6	1246.6
12.5°	1548.2	1518.5	1480.3	1446.9	1410.1	1374.8	1339.9	1311.1	1274.4	1239.0	1209.3
15°	1572.7	1541.6	1498.3	1450.2	1405.4	1361.6	1323.9	1289.9	1243.8	1201.8	1166.9
17.5°	1595.3	1552.5	1507.7	1452.1	1402.6	1349.3	1301.7	1259.3	1208.9	1159.4	1119.8
20°	1605.2	1562.8	1509.1	1453.5	1392.2	1326.7	1274.4	1227.3	1172.1	1117.0	1069.8
22.5°	1599.1	1568.5	1507.2	1437.9	1374.8	1305.5	1244.7	1188.1	1125.5	1068.9	1012.3
25°	1567.1	1555.8	1499.2	1426.6	1355.0	1275.3	1207.0	1147.1	1077.4	1017.1	957.7
27.5°	1508.1	1524.6	1484.6	1405.9	1328.6	1242.8	1168.3	1100.9	1029.8	962.4	903.0
30°	1414.8	1470.9	1455.8	1384.2	1295.1	1211.2	1125.0	1053.8	976.5	906.8	848.3
32.5°	1287.1	1388.9	1411.1	1354.0	1261.2	1166.9	1075.5	1004.8	923.3	848.8	792.2
35°	1150.0	1288.5	1352.2	1314.0	1221.6	1122.2	1028.8	946.4	865.3	792.7	736.2
37.5°	987.4	1172.1	1270.1	1265.9	1177.8	1076.4	975.1	893.6	810.2	738.5	679.6
40°	830.0	1034.5	1172.6	1203.2	1131.6	1019.9	917.1	833.7	752.7	682.9	612.7
42.5°	688.6	892.2	1069.8	1128.8	1075.5	964.7	861.5	773.4	695.2	630.1	558.0
45°	579.7	757.8	944.9	1040.2	1008.6	905.8	797.0	714.0	640.0	583.0	514.2
47.5°	501.9	631.5	819.6	944.0	940.2	842.7	734.3	654.6	584.9	532.1	473.7
50°	437.4	546.7	699.9	846.0	858.2	779.5	677.7	599.0	534.9	478.8	434.1
52.5°	379.4	464.7	598.5	737.1	777.6	712.1	614.1	542.9	481.2	430.8	394.0
55°	330.4	400.1	504.8	635.8	688.6	640.5	552.8	485.0	434.5	391.2	358.2
57.5°	287.5	342.2	429.4	539.2	599.0	566.5	491.6	435.5	390.7	350.2	323.8
60°	247.4	290.3	361.5	449.6	517.5	496.3	434.5	383.2	346.4	312.5	288.0
62.5°	209.7	245.1	303.5	370.9	431.7	426.1	378.5	337.4	306.3	276.2	256.4
65°	174.9	201.7	249.3	305.4	355.4	359.6	323.3	294.1	265.3	240.8	222.5
67.5°	144.7	163.1	198.9	248.4	286.5	299.7	275.2	251.7	228.1	208.3	191.8
70°	117.4	131.5	156.0	194.2	228.6	242.7	230.0	212.6	192.8	177.2	163.5
72.5°	89.5	103.2	119.7	145.2	173.4	189.0	186.6	175.3	160.2	148.0	135.3
75°	71.6	75.9	88.1	107.0	130.1	143.3	146.6	140.0	127.3	117.4	109.8
77.5°	55.6	58.4	65.0	76.4	92.4	104.2	109.3	108.4	99.0	92.4	85.3
80°	42.4	43.8	46.7	50.9	62.2	74.0	77.3	77.3	71.2	68.8	61.7
82.5°	29.7	30.6	32.0	33.9	37.7	47.6	51.4	52.3	49.0	45.7	40.5
85°	18.4	17.9	18.9	20.3	21.2	24.0	29.7	30.6	29.7	25.9	24.5
87.5°	8.0	8.5	8.5	8.0	8.5	9.0	11.3	13.7	11.8	10.4	9.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1356.4	1356.4	1356.4	1356.4	1356.4	1356.4	1356.4	1356.4	1356.4	1356.4	1356.4
2.5°	1332.4	1329.1	1322.9	1313.5	1307.8	1298.0	1291.4	1295.1	1296.1	1295.1	1294.2
5°	1301.3	1291.4	1277.7	1264.5	1252.2	1239.0	1231.5	1228.2	1221.6	1217.8	1215.9
7.5°	1265.9	1251.3	1232.0	1210.8	1191.0	1172.1	1163.6	1157.0	1144.8	1138.2	1132.1
10°	1225.4	1198.5	1179.2	1149.0	1130.6	1103.8	1085.4	1085.9	1067.5	1057.1	1049.6
12.5°	1180.6	1150.4	1115.1	1088.7	1061.4	1041.1	1018.0	1006.7	986.9	977.0	953.4
15°	1130.2	1095.8	1061.8	1025.1	999.1	965.7	933.6	894.5	862.9	835.6	828.1
17.5°	1076.4	1034.0	1000.6	962.9	922.3	861.5	821.9	797.9	779.1	764.9	753.6
20°	1020.8	977.5	941.2	876.1	816.3	778.1	750.8	733.3	713.5	698.0	689.5
22.5°	962.4	916.7	863.9	789.4	746.1	717.3	693.7	673.0	661.2	649.9	642.4
25°	907.7	858.2	776.7	726.7	689.0	657.0	640.0	627.8	613.6	597.1	589.6
27.5°	850.7	772.0	710.2	674.0	635.3	615.0	600.4	580.2	567.4	561.3	552.8
30°	785.2	706.5	660.8	620.2	594.8	571.7	553.8	543.4	531.2	518.4	513.2
32.5°	712.1	653.2	609.9	577.8	551.9	533.0	519.8	501.5	493.4	486.8	474.6
35°	654.2	606.6	566.5	539.2	514.7	498.6	482.1	472.2	456.2	449.6	445.4
37.5°	601.4	559.9	529.7	499.6	480.7	461.9	452.4	435.9	429.8	419.5	411.0
40°	558.0	517.5	488.7	465.2	443.5	430.3	417.6	404.8	394.5	390.2	379.4
42.5°	513.7	482.6	453.9	427.5	414.7	400.6	383.6	375.2	364.3	356.8	351.1
45°	473.7	444.4	419.9	398.7	382.7	368.1	357.7	342.2	336.0	322.4	316.7
47.5°	438.3	410.0	386.5	365.7	349.7	341.2	326.1	312.5	304.0	294.6	286.5
50°	400.1	377.5	354.9	337.0	322.8	309.2	293.6	287.5	272.4	268.2	263.9
52.5°	365.3	344.0	323.8	306.3	292.2	279.0	265.8	257.3	248.4	244.1	241.3
55°	333.2	312.5	292.7	277.1	263.0	249.3	240.8	230.9	226.2	222.9	219.2
57.5°	300.2	281.4	265.8	249.8	235.6	224.3	214.0	208.3	203.6	199.8	194.6
60°	269.1	251.2	237.5	222.9	208.3	199.4	191.8	184.7	179.1	172.5	170.6
62.5°	236.1	221.0	208.8	194.6	182.4	174.4	167.3	160.7	153.6	143.3	140.4
65°	206.4	194.2	181.0	169.2	157.9	149.9	139.5	132.0	129.1	128.2	127.7
67.5°	179.1	167.3	156.0	143.7	133.4	124.4	118.3	117.4	115.5	115.0	113.6
70°	151.8	140.9	129.6	118.3	108.4	107.0	105.1	103.2	100.9	99.9	99.0
72.5°	127.3	115.9	104.6	96.1	93.3	91.4	89.5	87.7	86.2	85.3	84.8
75°	101.3	91.0	83.4	80.1	77.8	76.4	73.5	72.1	71.2	69.8	69.3
77.5°	77.3	70.7	66.9	65.0	62.2	60.8	58.9	57.5	56.1	56.1	55.1
80°	55.6	52.8	50.4	47.6	46.7	44.8	44.3	42.9	43.4	41.9	41.9
82.5°	40.1	36.3	34.4	33.5	32.5	31.1	30.6	30.2	30.2	29.2	29.2
85°	22.2	21.2	20.3	19.3	19.3	17.9	18.4	17.9	17.9	17.0	16.5
87.5°	9.0	8.5	7.5	7.5	7.5	7.1	7.1	6.6	6.6	6.6	6.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





TEST NUMBER: P242394

CATALOG NUMBER: S122RDR-S675D830-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1356.4	1356.4	1356.4	1356.4
2.5°	1289.0	1289.9	1288.5	1289.5
5°	1213.6	1207.9	1207.0	1205.6
7.5°	1124.5	1124.0	1121.2	1117.9
10°	1039.2	1036.9	1036.4	1033.1
12.5°	939.3	920.9	919.0	909.6
15°	816.8	813.9	804.5	798.4
17.5°	748.4	739.0	735.7	734.3
20°	682.9	674.4	673.0	672.1
22.5°	637.7	628.7	624.5	621.2
25°	584.9	581.6	579.7	578.8
27.5°	543.4	534.9	534.0	531.6
30°	509.0	506.6	503.3	500.5
32.5°	468.5	466.6	463.8	462.8
35°	440.7	434.1	431.2	427.0
37.5°	410.0	406.3	401.5	403.4
40°	373.3	370.9	370.0	369.5
42.5°	344.0	336.5	333.7	333.7
45°	314.4	308.2	304.0	304.5
47.5°	282.3	282.8	280.0	280.9
50°	260.6	257.8	255.9	256.4
52.5°	239.9	237.5	236.1	238.5
55°	216.8	214.0	213.5	213.0
57.5°	191.8	190.4	188.0	186.6
60°	164.5	160.7	156.0	155.5
62.5°	139.5	139.5	139.5	139.5
65°	126.8	126.3	126.8	127.3
67.5°	113.6	112.6	111.7	112.2
70°	98.0	97.6	97.1	97.1
72.5°	82.9	82.9	82.5	82.0
75°	68.8	67.9	67.9	67.9
77.5°	55.1	54.7	54.2	53.7
80°	41.5	41.0	40.5	40.5
82.5°	29.2	28.7	28.7	28.3
85°	17.0	17.4	17.0	17.9
87.5°	6.1	5.7	6.1	5.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)